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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/584,189	05/31/2000	Seung-Chan Bang	11349-P65582US0	4177

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EXAMINER	
BURD, KEVIN MICHAEL	
ART UNIT	**PAPER NUMBER**
2631	10

DATE MAILED: 03/18/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/584,189	BANG ET AL.	
	Examiner	Art Unit	
	Kevin M Burd	2631	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 January 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *83,86-97,99,101-109,111-117,119-124,126,128-136 and 138-151* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *83,86,94-97,99,101-103,106-109,111-121,126,128-130,133-136 and 138-151* is/are rejected.

7)☒ Claim(s) *87-93,104,105,122-124,131 and 132* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

1. This office action, in response to the amendment filed 1/2/2004, is a non-final office action.

Response to Amendment

2. The rejections under 35 USC 112, second paragraph are withdrawn in view of the amendment except for the rejections of claims 96 and 97. Claim 96 still lacks antecedent basis for "said first logical means" and claim 97 still lacks antecedent basis for "said first selection means".

Response to Arguments

3. Applicant's arguments filed 1/2/2004 have been fully considered but they are not persuasive. Applicant states Ovesjo does not disclose or suggest selection of the spreading codes such that the two consecutive pairs of the I and Q data are correspondent to two points located on the same point or symmetrical with respect to a zero point on a phase domain. However, as pointed out in the previous office action, figure 2 shows the spreading code where the data will be located on the same point or symmetrical around the origin. Points of either 1 or –1 are shown in figure 2 and these points meet the criteria for being on the same point of symmetrical about the origin. Therefore, the rejections of these claims are maintained. The newly added claim limitations and new claims will be addressed below.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 94-97 and 140 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 94 and 95 are identical claims. One of these claims must be deleted.

Claim 96 lacks antecedent basis for "said first logical means" on line 2.

Claim 97 lacks antecedent basis for "said first selection means" on line 2.

Claim 140 is dependent on claim 85. Claim 85 was canceled in the amendment filed 1/2/2004.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 83, 86, 99, 101-103, 106, 108, 109, 111-117, 119-121, 126, 128-130, 133, 135, 136, 138-147, 149 and 150 are rejected under 35 U.S.C. 102(e) as being anticipated by Ovesjo et al (US 6,108,369).

Regarding claim 83, Ovesjo discloses a system and method for channel code allocation comprising encoding data to generate data and control portions (column 3, lines 30-33). Means for generating spreading codes are based on the data rates (column 3, lines 17-30 and column 5, lines 31-44). The control and data signals are spread by the spreading codes as shown in figures 1A, 1B and column 3, lines 60-66. The spread data will be located on the same point or symmetrical around the origin. Points of either 1 or –1 are shown in figure 2. The spreading code is an orthogonal variable spreading factor code (abstract) and the spreading factor is shown in figure 2. The spreading factor is based on the level of the tree shown in figure 2.

Regarding claim 86, the spreading factor is one of the subscript numbers shown in figure 2. A control means generates the spreading codes based on the branch of the tree shown in figure 2. The codes are shown in each branch.

Regarding claim 99, numerous data channels are shown in figure 1A.

Regarding claim 101, the spreading factor is 2 raised to some power as shown in figure 2 and stated in column 2, lines 5-16.

Regarding claim 102, the spread codes constitute a specific signature for that data and figures 1A and 1B shown the spread data being combined with a scrambling code.

Regarding claim 103, the signature is determined by the spreading of the data and control information and is combined with the scrambling code.

Regarding claims 106, 108 and 109, the signal is mixed with a scrambling code and the data are I and Q values which have a 90 degree phase difference.

Regarding claims 111 and 112, the spreading codes are shown in figure 2.

Regarding claims 113-115, 117, 119-121 and 150, Ovesjo discloses a system and method for channel code allocation comprising encoding data to generate data and control portions (column 3, lines 30-33). Means for generating spreading codes are based on the data rates (column 3, lines 17-30 and column 5, lines 31-44). The control and data signals are spread by the spreading codes as shown in figures 1A, 1B and column 3, lines 60-66. The spread data will be located on the same point or symmetrical around the origin. Points of either 1 or –1 are shown in figure 2. The spreading code is an orthogonal variable spreading factor code (abstract) and the spreading factor is shown in figure 2. The spreading factor is based on the level of the tree shown in figure 2. The specific spreading codes are shown in figure 2.

Regarding claim 116, it is inherent in radio communication systems such as Ovesjo that the signal to be transmitted be converted to a radio frequency signal and be transmitted via an antenna.

Regarding claim 126, numerous data channels are shown in figure 1A.

Regarding claim 128, the spreading factor is 2 raised to some power as shown in figure 2 and stated in column 2, lines 5-16.

Regarding claim 129, the spread codes constitute a specific signature for that data and figures 1A and 1B shown the spread data being combined with a scrambling code.

Regarding claim 130, the signature is determined by the spreading of the data and control information and is combined with the scrambling code.

Regarding claims 133, 135 and 136, the signal is mixed with a scrambling code and the data are I and Q values which have a 90 degree phase difference.

Regarding claims 138 and 139, the spreading code is shown in figure 2.

Regarding claim 140, Ovesjo discloses in column 7, lines 13-16, the transmitter transmits at least two physical channels comprising a data and control channel.

Regarding claims 141-145, Ovesjo discloses a system and method for channel code allocation comprising encoding data to generate data and control portions (column 3, lines 30-33). Means for generating spreading codes are based on the data rates (column 3, lines 17-30 and column 5, lines 31-44). The control and data signals are spread by the spreading codes as shown in figures 1A, 1B and column 3, lines 60-66. The spread data will be located on the same point or symmetrical around the origin. Points of either 1 or –1 are shown in figure 2. The spreading code is an orthogonal variable spreading factor code (abstract) and the spreading factor is shown in figure 2. The spreading factor is based on the level of the tree shown in figure 2. The specific spreading codes are shown in figure 2 and the spreading factor is 2 raised to some power as shown in figure 2 and stated in column 2, lines 5-16.

Regarding claim 146, Ovesjo discloses a system and method for channel code allocation comprising encoding data to generate data and control portions (column 3, lines 30-33). Means for generating spreading codes are based on the data rates (column 3, lines 17-30 and column 5, lines 31-44). The control and data signals are spread by the spreading codes as shown in figures 1A, 1B and column 3, lines 60-66. The spread data will be located on the same point or symmetrical around the origin.

Points of either 1 or –1 are shown in figure 2. The spreading code is an orthogonal variable spreading factor code (abstract) and the spreading factor is shown in figure 2. The spreading factor is based on the level of the tree shown in figure 2. The spreading factor is one of the subscript numbers shown in figure 2. A control means generates the spreading codes based on the branch of the tree shown in figure 2. The codes are shown in each branch.

Regarding claim 147, Ovesjo discloses a system and method for channel code allocation comprising encoding data to generate data and control portions (column 3, lines 30-33). Means for generating spreading codes are based on the data rates (column 3, lines 17-30 and column 5, lines 31-44). The control and data signals are spread by the spreading codes as shown in figures 1A, 1B and column 3, lines 60-66. The spread data will be located on the same point or symmetrical around the origin. Points of either 1 or –1 are shown in figure 2. The spreading code is an orthogonal variable spreading factor code (abstract) and the spreading factor is shown in figure 2. The spreading factor is based on the level of the tree shown in figure 2. The spreading factor is one of the subscript numbers shown in figure 2. A control means generates the spreading codes based on the branch of the tree shown in figure 2. The codes are shown in each branch. The spread codes constitute a specific signature for that data and figures 1A and 1B shown the spread data being combined with a scrambling code.

Regarding claim 149, Ovesjo discloses a system and method for channel code allocation comprising encoding data to generate data and control portions (column 3, lines 30-33). Means for generating spreading codes are based on the data rates

(column 3, lines 17-30 and column 5, lines 31-44). The control and data signals are spread by the spreading codes as shown in figures 1A, 1B and column 3, lines 60-66. The spread data will be located on the same point or symmetrical around the origin. Points of either 1 or –1 are shown in figure 2. The spreading code is an orthogonal variable spreading factor code (abstract) and the spreading factor is shown in figure 2. The spreading factor is based on the level of the tree shown in figure 2. The data is encoded according to the spreading code and decoded at the receiver. The data is input from an external source by a user. A processor controls the transmission of the signal.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 107, 134, 148 and 151 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ovesjo et al (US 6,108,369) in view of Shattil (US 2003/0147655).

Regarding claims 107 and 134, Ovesjo discloses the apparatus and method stated above in paragraph 5. Ovesjo does not disclose filtering the output signal with a pulse shaping filter or adjusting the gain of the pulse shaped signal. Shattil discloses pulse shape filtering the signal and adjusting the gain of the signal in the transmitter (paragraph 0140). It would have been obvious for one of ordinary skill in the art at the

time of the invention to combining the teachings of Shattil into the apparatus and method of Ovesjo to remove unneeded or undesired components from the transmission.

Regarding claims 148 and 151, Ovesjo discloses a system and method for channel code allocation comprising encoding data to generate data and control portions (column 3, lines 30-33). Means for generating spreading codes are based on the data rates (column 3, lines 17-30 and column 5, lines 31-44). The control and data signals are spread by the spreading codes as shown in figures 1A, 1B and column 3, lines 60-66. The spread data will be located on the same point or symmetrical around the origin. Points of either 1 or –1 are shown in figure 2. The spreading code is an orthogonal variable spreading factor code (abstract) and the spreading factor is shown in figure 2. The spreading factor is based on the level of the tree shown in figure 2. The signal is mixed with a scrambling code and the data are I and Q values which have a 90 degree phase difference. Ovesjo does not disclose filtering the output signal with a pulse shaping filter or adjusting the gain of the pulse shaped signal. Shattil discloses pulse shape filtering the signal and adjusting the gain of the signal in the transmitter (paragraph 0140). It would have been obvious for one of ordinary skill in the art at the time of the invention to combining the teachings of Shattil into the apparatus and method of Ovesjo to remove unneeded or undesired components from the transmission.

Allowable Subject Matter

7. Claims 87-93, 104, 105, 122-124, 131 and 132 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Contact Information

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

(703) 872-9314, (for formal communications intended for entry or for informal or draft communications, please label "PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Burd, whose telephone number is (703) 308-7034. The Examiner can normally be reached on Monday-Thursday from 9:00 AM - 6:00 PM.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-3800.

Kevin M. Burd
PATENT EXAMINER
3/15/2004